

Semper Fit Fitness



Objective

Be able to use general physical fitness principles to create a self-directed physical training program that meets your needs and fulfills your goals.



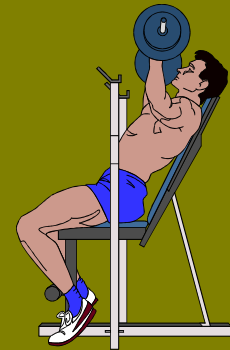
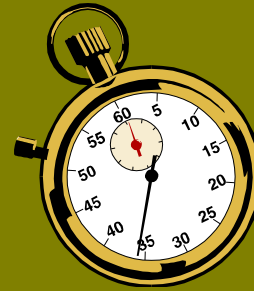
General Fitness Principles

- ✓ Evaluate
- ✓ Educate
- ✓ Motivate
- ✓ Reevaluate



Evaluate Baselines

- ✓ Cardiovascular Health
- ✓ Muscular Strength & Endurance
- ✓ Flexibility
- ✓ Body composition



Cardiovascular Health

- ✓ Ability to perform moderate to high intensity exercise for a prolonged period of time
- ✓ Higher maximum oxygen consumption = Greater aerobic capacity
- ✓ VO₂max is optimal measure of aerobic capacity



Muscular

- ✓ Combination of physical strength and endurance
- ✓ Muscular strength - maximum amount you can lift one time
- ✓ Muscular endurance - how long or how many times you can lift and lower a given weight



Flexibility

- ✓ Maximum range of motion possible in a joint or series of joints
- ✓ “right and left hamstring stretch”
- ✓ “sit and reach”



Body Composition

- ✓ Circumference method
- ✓ Skinfold method
- ✓ Underwater
(Hydrostatic) weighing



Educate

- ✓ Understand your results
- ✓ Compare them to norms, Marine Corps standards, and desired improvements
- ✓ Decide what changes are reasonable



Motivate

Set goals that are
SMART:

- ✓ Specific
- ✓ Measurable
- ✓ Attainable
- ✓ Reasonable
- ✓ Time-bound



Reevaluate

- ✓ Same tests as in evaluation
- ✓ Compare current results to initial test
- ✓ Modify program as needed



Self Directed PT Program



Safety

- ✓ Medical status
- ✓ Injury prevention
- ✓ Early injury treatment

Protect
Rest
Ice
Compression
Elevation



Smart Training

- ✓ Proper progression
- ✓ Warm-up
- ✓ Stretching
- ✓ Mechanics



FITT - P

Frequency

Intensity

Time

Type

Progression



Frequency

Number of workouts performed each week

Guidelines:

cardiovascular 3 to 5

strength 2 to 3

calisthenics workouts 2 to 5

flexibility workouts 3 to 6



Intensity Measurements

% Max HR

RPE

55	9	very light	↑ Typical Training Zone ↓
65	12	moderate	
70	13	somewhat hard	
80	15	hard	
90	17	very hard	
95	19	very, very hard	
100	20	maximal	



Target Heart Rate Zone

Max HR = $220 - \text{your age}$

60% Max HR = $\text{Max HR} \times 0.60$

85% Max HR = $\text{Max HR} \times 0.85$

THR Zone = 60% to 85% of Max
HR



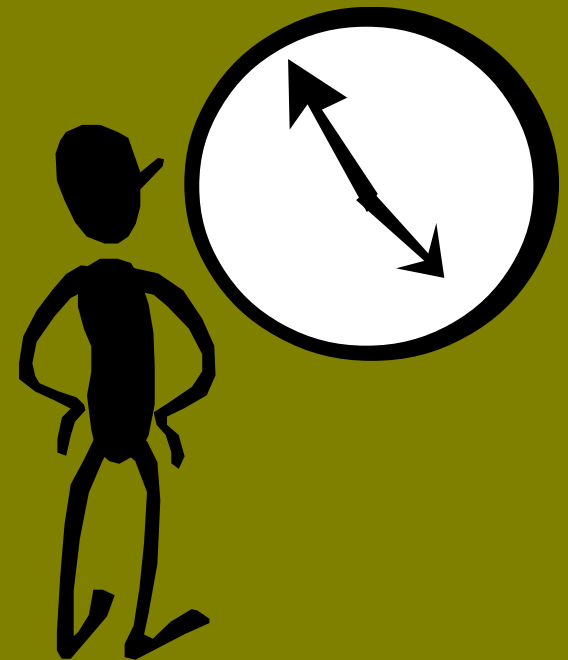
Type

- ✓ Variation adds physical and psychological benefits
- ✓ Wide range of sport specific and cross training options



Time

- ✓ Duration of total exercise
- ✓ Interval lengths
- ✓ Rest periods



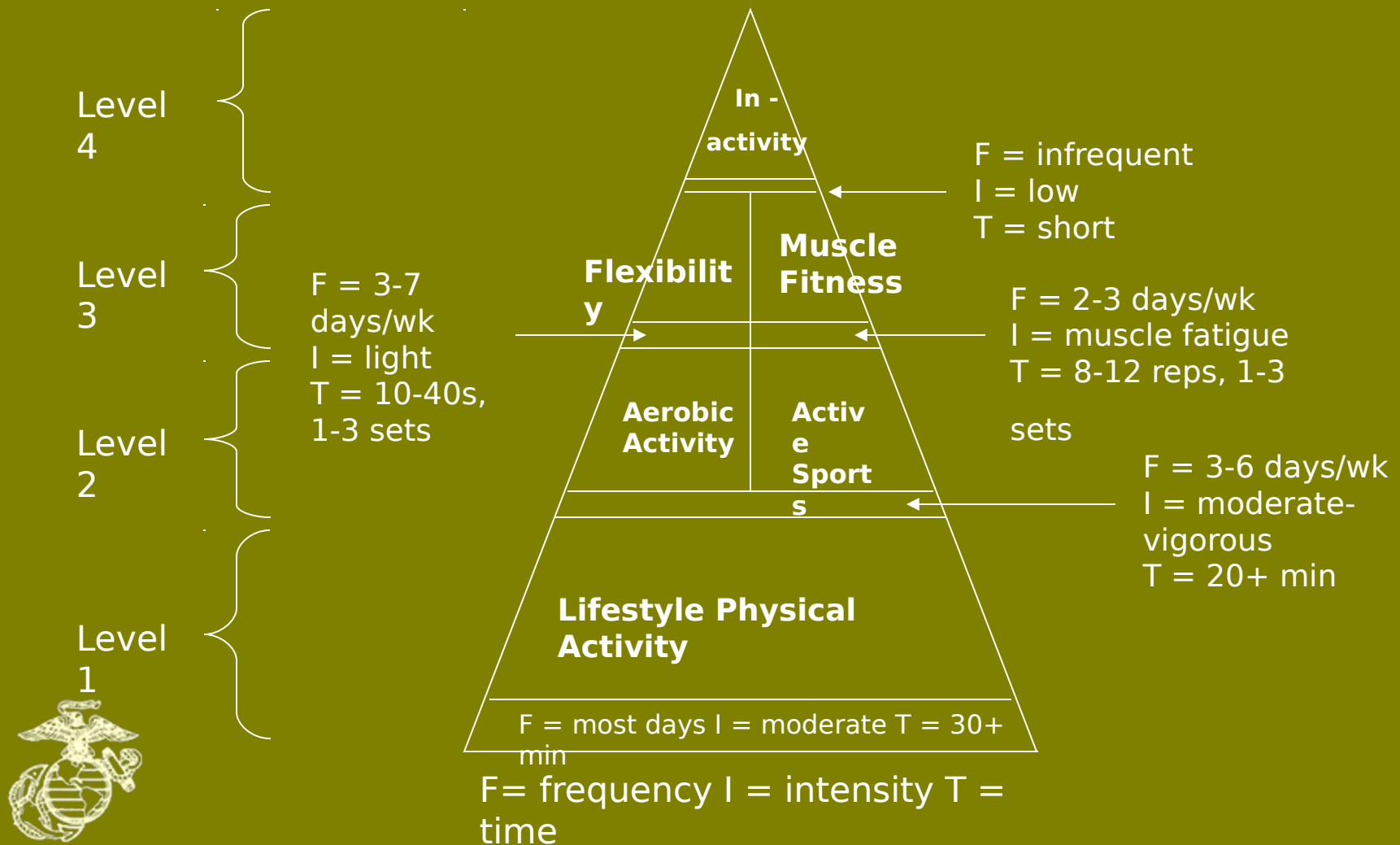
Progression

- ✓ Important for increased safety and training success
- ✓ Increase one aspect of training at a time

**NOT MORE THAN
10% WEEKLY!**



Physical Activity Pyramid



Cardiovascular Training Guidelines

- ✓ Meet goals & time constraints without injury
- ✓ Be aware of your capabilities and progression speed
- ✓ Can vary workouts to include aerobic and anaerobic systems



Weight Training Guidelines

- ✓ For new exercises, start with minimal weight
- ✓ Use a closed grip and place hands an equal distance from the ends of the bar
- ✓ Free weights: Feet should be hip to shoulder width apart, knees slightly bent, and back maintaining its natural curve
- ✓ Keep your head level and eyes focused straight ahead



Weight Training Guidelines Continued

- ✓ Resistance machines: Adjust the pads to fit your body size
- ✓ Lifts should be slow, smooth, and controlled
- ✓ Exhale during exertion and inhale during recovery. **Do not hold your breath!**
- ✓ Always use a spotter



Sets and Repetitions

- ✓ General strength gains: 8-12 exercises, 1-3 times/wk
- ✓ Muscle endurance – 1-3 sets, 12-15 reps, 30-60sec rest between sets
- ✓ Muscle strength/endurance 1-3 sets, 8-12 reps, 60-90sec rest between sets
- ✓ Muscle strength – 1-3 sets, 3-5 reps, at least 2 min rest between sets



Calisthenics

- ✓ Improves muscular strength & endurance
- ✓ Can be integrated into all aspects of training program
- ✓ Can be done as often as 5 times/wk
- ✓ Alter intensity by varying sets, reps and rest
- ✓ Examples: abdominal exercises, push-ups, jumping jacks



Benefits of Improved Flexibility

- ✓ Reduced muscle soreness after workout
- ✓ Lower risk of injury
- ✓ Mental and physical preparation for exercise or competition
- ✓ Enhanced muscle performance



SGT Smith's Program

Monday

5min warm up (walk/light jog)

Stretching w/lower body emphasis

20min run low-moderate range of THR zone

3-5min cool down walk & stretching

Warm up w/light weight (1 set of 8-12 reps)

Strength training focused on lower body

**3 sets of 8-12 reps with 90 sec rest
(strength/endurance)**

2 sets of max crunches (full recovery between)

Stretching w/lower body emphasis



SGT Smith's Program

Tuesday

5min warm up on stationary bike

Stretching w/lower body emphasis

20min stationary bike at low-moderate range of THR zone

3-5min cool down walk & stretching

Warm up w/light weight (1 set of 8-12 reps)

Strength training focused on upper body

**3 sets of 8-12 reps with 90 sec rest
(strength/endurance)**

2-3 sets of max pull ups (full recovery between)

2 sets of max crunches (full recovery between)

Strength training w/weighted vest 6-8 min (full recovery between)



SGT Smith's Program

Wednesday

10min warm up (walk/light jog)

Stretching w/lower body emphasis

3 mile run at moderate-high range of THR zone

5min cool down walk & stretching

2 sets of max crunches (optional)



SGT Smith's Program

Thursday

5-10min warm up on stationary bike

Warm up w/light weight (1 set of 8-12 reps)

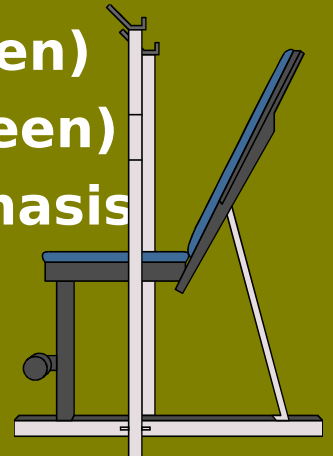
Strength training focused on upper body

**2-3 sets of 8-12 reps with 90 sec rest
(strength/endurance)**

2 sets of max crunches (full recovery between)

2-3 sets of max pull ups (full recovery between)

Stretching w/upper body & lower back emphasis



SGT Smith's Program

Friday

5min warm up (walk/light jog)

Stretching w/lower body emphasis

25min run at low-moderate range of THR zone

3-5min cool down walk & stretching

2 sets of max crunches (full recovery between)

Stretching w/lower body emphasis



SGT Smith's Program

Saturday

30-60min of alternative cardiovascular activity (no running)

**3-5min cool down walk & stretching
(inline skate, swim, bike, surf, etc)**

Sunday

OFF

Recover and rest



Weight Management

- ✓ Ensure optimal health, fitness and physical performance
- ✓ Maintain military readiness
- ✓ Achieve peak performance



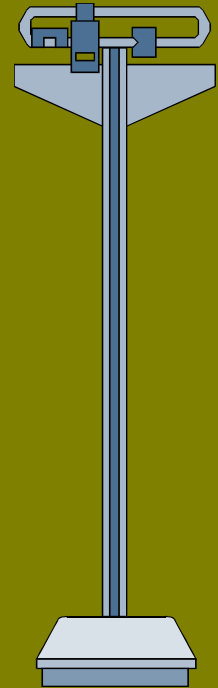
Energy Balance

Calories Eaten - Calories
Burned



Positive = weight gain

Negative = weight loss



Calculating Your BMR

	<u>Age</u>	<u>Equation</u>
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Men:	18-30	$6.95 \times \text{body weight (lbs)} + 679$
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	30-60	$5.27 \times \text{body weight (lbs)} + 879$
--	-------	----------------------------------------------

Women:	18-30	$6.68 \times \text{body weight (lbs)} + 496$
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	30-60	$3.95 \times \text{body weight (lbs)} + 829$
--	-------	----------------------------------------------

Your BMR is _____kcal/day.



Estimate Your Activity Factor

<u>Level</u>	<u>Activity Factor</u>	
Very light	Seated and standing activities, driving	1.2
Light	Walking, sailing, bowling, light stretching	1.4
Moderate	Jogging, aerobic dance, light swimming	1.6
Strenuous	Stairmaster, running, racquet sports	1.9
Exceptional	Running or swimming races, cycling uphill	2.3



Estimated Energy Requirement

Energy needs = _____ × _____
BMR Activity Factor

Your EER = _____ kcal/ day.



Body Mass Index

Your BMI = $\frac{\text{body weight(lbs)}}{\text{height (in)}^2} \times 705 = \text{ratio}$.

Ratio

<20

20-25

25-30

>30

Classification

Underweight

Normal

Overweight

Obese



Waist-to-Hip Ratio

Your WHR = _____ \div _____ **=** _____
ratio **waist circ. (in)** **hip circ. (in)**

Standards for Waist-to-Hip Ratios

Men: <0.95

Women: <0.80



Special Programs



Training Strategies

Workout

Time Trial
performance

Intervals
alternate

Pyramids

general &

Fartleks
hard

Description

Use to establish baseline of
fitness.

Ratios of recovery to work. Ex:

3 min normal, 1 min sprint, etc.
Incr general & performance fitness.

1:1, 3:2, 5:3, 7:5, 5:3, 3:2, 1:1 (first
number hard, second rest) Incr
performance fitness.

Unstructured mixture of normal &
exercise pace. Incr general &



Weight Training

- ✓ Strength oriented = higher weight, less reps
- ✓ Slow negatives
- ✓ Pyramids



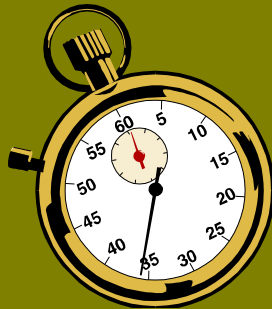
Remedial Assistance Modifications

- ✓ THR between 60% and 70% of HR Max
- ✓ Run no more than three times a week
- ✓ Never run more than two days in a row
- ✓ Supplement running with lower-intensity cardiovascular activity



Training in Confined Spaces

Station	Exercise	Time
	Warm-up	5 min
1	Wall Squat w/Ball	60 sec
2	Push Ups	60 sec
3	Jog in Place	60 sec
4	Stair Step/Jog	60
sec		
5	Jumping Jacks	60
sec		
	Check Heart Rate	10 sec



Training in Confined Spaces

Station	Exercise	Time
6	Lat Pulldown w/Band	60 sec
7	Crunches & Lower Back Extensions	30 sec each
8	Biceps Curl & Triceps Extension w/Band	30 sec each
9	Jumping Jacks	60 sec
10	Stair Step/Jog	60 sec
11	Jog in Place	60 sec
12	Jumping Jacks	60 sec
	Check Heart Rate	10 sec
	Repeat Stations 1-12	2-4 Times



Factors that Impede Acclimation

- ✓ Dehydration
- ✓ Alcohol
- ✓ Illness
- ✓ Infection
- ✓ Injury
- ✓ Sleep deprivation
- ✓ Reduction of physical activity
- ✓ Electrolyte depletion
- ✓ Inadequate energy intake



Heat



- ✓ Avoid the heat of the day
- ✓ Risk of dehydration and heat illness
- ✓ 8-10 days to acclimatize to the heat
- ✓ **Stay hydrated!!!**



Cold



- ✓ Check weather and dress appropriately
- ✓ Wear several layers and a hat or cap
- ✓ Warm up longer
- ✓ Replenish lost carbohydrates & electrolytes
- ✓ Be aware of potential cold injuries



Altitude

- ✓ May experience difficulty breathing and absorbing nutrients
- ✓ Reduced performance until you adjust
- ✓ Most problems subside after 5-10 days
- ✓ Increase carbohydrate intake
- ✓ Stay hydrated!!!



Supplements and Performance

- ✓ **Nutritional supplement** - a nutrient taken in addition to your diet
- ✓ **Ergogenic agent** - a substance taken with the intent of improving physical performance



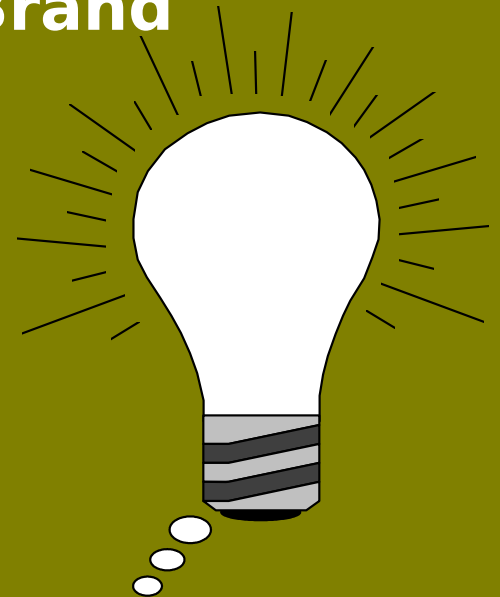
When Are They Useful?

- ✓ You have an existing vitamin or mineral deficiency
- ✓ You have poor dietary habits
- ✓ You are in extreme environmental conditions



Understand Before You Buy

- ✓ **Amount of Nutrients**
- ✓ **Natural Versus Synthetic Vitamins**
- ✓ **Additives**
- ✓ **Store Brands Versus Name Brand**
- ✓ **Disintegration Rate**
- ✓ **Expiration Dates**
- ✓ **Stress Tablets**
- ✓ **No Iron for Men**



Nutritional Ergogenic Agents

- ✓ Energy Enhancers
- ✓ Fat Burners
- ✓ Growth Hormone Releasers
- ✓ Glycogen Sparers
- ✓ Intracellular Buffers
- ✓ Testosterone Enhancers
- ✓ Miscellaneous



Energy Enhancers

- ✓ Claim: Improves performance by increasing energy
- ✓ Reality: No demonstrated benefits in healthy people. Potential side effects.



Fat Burners

- ✓ Claim: Reduces body fat and increases lean mass
- ✓ Reality: Benefits range from nonexistent to questionable to inconclusive with various side effects.



Growth Hormone Releasers

- ✓ Claim: Promotes muscle growth through an increase in growth hormone release
- ✓ Reality: Some have shown benefits. Most have negative side effects.



Glycogen Sparers

- ✓ Claim: Increases energy and endurance, and reduces fatigue
- ✓ Reality: Some demonstrated benefits with varied effects and potentially uncomfortable side effects.



Intracellular Buffers

- ✓ Claim: Delays fatigue and increases aerobic capacity by buffering potentially harmful metabolic byproducts
- ✓ Reality: Have shown questionable to moderate benefits with GI related side effects.



Testosterone Enhancers

- ✓ Claim: Increases testosterone levels, leading to more lean muscle mass
- ✓ Reality: Little to no benefits in those that are not banned. Known side effects.



Miscellaneous

- ✓ Includes a wide variety of health claims, risks and benefits
- ✓ Reality: Results vary. Most require more research.



Ergolytic Agents

- ✓ Alcohol - Causes severe dehydration and decreases performance
- ✓ Amphetamines - Increases heart rate and blood pressure; may cause dizziness, stomach upset, irritability, insomnia, and death
 - Banned by the military!!
- ✓ Tobacco - Increases heart rate and blood pressure, leading to decreased performance; long term health risks



Summary

- ✓ Be consistent
- ✓ Follow the FITT-P principles
- ✓ Keep it simple
- ✓ Use this guide to develop your program
- ✓ Start now - Stay with it!

